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     (FILE 'HOME' ENTERED AT 14:20:28 ON 12 JUN 2001)

     FILE 'MEDLINE' ENTERED AT 14:20:41 ON 12 JUN 2001
L1          3289 S MCP OR (MONOCYTE (1W) CHEMOTACTIC (1W) PROTEIN)
L2           196 S L1 (P) ANTAGONIST?
L3            14 S L2 (P) TRUNCAT?
L4           630 S (MONOCYTE (1W) CHEMOTACTIC (1W) PROTEIN)
L5           102 S L4 AND ANTAGONIST
L6             4 S L5 AND TRUNCAT?

     FILE 'CAPLUS, EMBASE, BIOSIS' ENTERED AT 14:31:26 ON 12 JUN 2001
L7           245 S L5
L8             7 S L6

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L3 ANSWER 4 OF 14 MEDLINE

AB Chemokines are important mediators in infection and inflammation. The **monocyte chemotactic proteins** (**MCPs**) form a subclass of structurally related C-C chemokines. **MCPs** select specific target cells due to binding to a distinct set of chemokine receptors. Recombinant and synthetic **MCP**-1 variants have been shown to function as chemokine **antagonists**. In this study, posttranslationally modified immunoreactive **MCP**-1 and **MCP**-2 were isolated from mononuclear cells. Natural forms of **MCP**-1 and **MCP**-2 were biochemically identified by Edman degradation and mass spectrometry and functionally characterized in chemotaxis and Ca2+-mobilization assays. Glycosylated **MCP**-1 (12 and 13.5 kDa) was found to be two- to threefold less chemotactic for monocytes and THP-1 cells than nonglycosylated **MCP**-1 (10 kDa). Natural, NH2-terminally **truncated** **MCP**-1(5-76) and **MCP**-1(6-76) were practically devoid of bioactivity, whereas COOH-terminally processed **MCP**-1(1-69) fully retained its chemotactic and Ca2+-inducing capacity. The capability of naturally modified **MCP**-1 forms to desensitize the Ca2+ response induced by intact **MCP**-1 in THP-1 cells correlated with their agonistic potency. In contrast, naturally modified **MCP**-2(6-76) was devoid of activity, but could completely block the chemotactic effect of intact **MCP**-2 as well as that of **MCP**-1, **MCP**-3, and RANTES. Carboxyl-terminally processed **MCP**-2(1-74) did retain its chemotactic potency. Although comparable as a chemoattractant, natural intact **MCP**-2 was found to be 10-fold less potent than **MCP**-1 in inducing an intracellular Ca2+ increase. It can be concluded that under physiologic or pathologic conditions, posttranslational modification affects chemokine potency and that natural **MCP**-2(6-76) is a functional C-C chemokine inhibitor that might be useful as an inhibitor of inflammation.

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TITLE:	Posttranslational modifications affect the activity of the human monocyte chemotactic proteins MCP-1 and MCP-2: identification of MCP-2(6-76) as a natural chemokine inhibitor.
AUTHOR:	Proost P; Struyf S; Couvreur M; Lenaerts J P; Conings R; Menten P; Verhaert P; Wuyts A; Van Damme J
CORPORATE SOURCE:	Rega Institute for Medical Research, Laboratory of Molecular Immunology, University of Leuven, Belgium.
SOURCE:	JOURNAL OF IMMUNOLOGY, (1998 Apr 15) 160 (8) 4034-41. Journal code: IFB; 2985117R. ISSN: 0022-1767.
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1: Blaszczyk J, Coillie EV, Proost P, Damme JV, Opdenakker G, Bujacz GD, Wang JM, Ji X. Related Articles, Protein, S

Complete crystal structure of monocyte chemotactic protein-2, a CC chemokine that ir with multiple receptors.

Biochemistry. 2000 Nov 21;39(46):14075-81.

PMID: 11087354 [PubMed - indexed for MEDLINE]

2: Van den Steen PE, Proost P, Wuyts A, Van Damme J, Opdenakker G. Relate

Neutrophil gelatinase B potentiates interleukin-8 tenfold by aminoterminal processing, it degrades CTAP-III, PF-4, and GRO-alpha and leaves RANTES and MCP-2 intact.

Blood. 2000 Oct 15;96(8):2673-81.

PMID: 11023497 [PubMed - indexed for MEDLINE]

3: Wuyts A, D'Haese A, Cremers V, Menten P, Lenaerts JP, De Loof A, Heremans H, Proost P, Van Damme J. Relate

NH2- and COOH-terminal truncations of murine granulocyte chemotactic protein-2 au the in vitro and in vivo neutrophil chemotactic potency.

J Immunol. 1999 Dec 1;163(11):6155-63.

PMID: 10570306 [PubMed - indexed for MEDLINE]

4: Proost P, Struyf S, Wuyts A, Menten P, De Meester I, Lambeir AM, Scharpe S, Schols D, De Clercq E, Van Damme J. Relate

Isolation and identification of naturally modified C-C chemokines MCP-1, MCP-2 and RANTES: effects of posttranslational modifications on receptor usage, chemotactic an anti-HIV-1 activity.

Eur Cytokine Netw. 1998 Sep;9(3 Suppl):73-5. Review. No abstract available.

PMID: 9831190 [PubMed - indexed for MEDLINE]

5: Van Coillie E, Proost P, Van Aelst I, Struyf S, Polfliet M, De Meester I, Harvey DJ, Van Damme J, Opdenakker G. Related Articles, Protein, Nu

Functional comparison of two human monocyte chemotactic protein-2 isoforms, role c amino-terminal pyroglutamic acid and processing by CD26/dipeptidyl peptidase IV.

Biochemistry. 1998 Sep 8;37(36):12672-80.

PMID: 9730840 [PubMed - indexed for MEDLINE]

6: Proost P, Struyf S, Couvreur M, Lenaerts JP, Conings R, Menten P, Verhaert P, Wuyts A, Van Damme J. Relate

Posttranslational modifications affect the activity of the human monocyte chemotactic MCP-1 and MCP-2: identification of MCP-2(6-76) as a natural chemokine inhibitor.

J Immunol. 1998 Apr 15;160(8):4034-41.

PMID: [redacted]8113 [PubMed - indexed for MEDLINE]

7: Proost P, Wuyts A, Van Damme J. Relate

Human monocyte chemotactic proteins-2 and -3: structural and functional comparison MCP-1.
J Leukoc Biol. 1996 Jan;59(1):67-74. Review.
PMID: 8558070 [PubMed - indexed for MEDLINE]

8: Taub DD, Proost P, Murphy WJ, Anver M, Longo DL, van Damme J, Oppenheim JJ. Relate

Monocyte chemotactic protein-1 (MCP-1), -2, and -3 are chemotactic for human T lymphocytes.
J Clin Invest. 1995 Mar;95(3):1370-6.
PMID: 7883984 [PubMed - indexed for MEDLINE]

9: Proost P, Van Leuven P, Wuyts A, Ebberink R, Opdenakker G, Van Damme J. Relate

Chemical synthesis, purification and folding of the human monocyte chemotactic prote MCP-2 and MCP-3 into biologically active chemokines.
Cytokine. 1995 Feb;7(2):97-104.
PMID: 7780043 [PubMed - indexed for MEDLINE]

10: Alam R, Forsythe P, Stafford S, Heinrich J, Bravo R, Proost P, Van Damme J. Relate

Monocyte chemotactic protein-2, monocyte chemotactic protein-3, and fibroblast-indu cytokine. Three new chemokines induce chemotaxis and activation of basophils.
J Immunol. 1994 Oct 1;153(7):3155-9.
PMID: 7522251 [PubMed - indexed for MEDLINE]

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